EC3090 – Econometrics -
Lab session 4
Lecturer: Dr Gaia Narciso
Teaching Assistants: Martin Schmitz, Agustin Benetrix

Exercise c17.1 – Wooldridge, page 615

1) The variable *favwin* is a binary variable if the team favored by the Las Vegas point wins. A linear probability model to estimate the probability that the favored team wins is:
   P(*favwin*=1| *spread*)= $\beta_0 + \beta_1$ spread
   Explain why, if the spread incorporates all relevant information, we expect β_0=0.5
2) Estimate the model by OLS. Test H0: β_0=0.5 against a two-sided alternative. Use both the usual and the heteroskedasticity-robust standard errors.
3) Is spread statistically significant? What is the estimated probability that the favored team wins when *spread*=10?
4) Now, estimate a probit model for P(*favwin*=1|*spread*). Interpret and test the null hypothesis that the intercept is zero.
5) Use the probit model to estimate the probability that the favored team wins when spread=10. Compare this with the LPM estimate from part 3)
6) Add the variable *favhome, fav25* and *und25* to the probit model and test joint significance of these variables. Interpret this result, focusing on the question of whether the spread incorporates all observable information prior to a game.

1.	favscr	favored team's score
2.	undscr	underdog's score
3.	spread	Las Vegas spread
4.	favhome	=1 if favored team at home
5.	neutral	=1 if neutral site
6.	fav25	=1 if favored team in top 25
7.	und25	=1 if underdog in top 25
8.	fregion	favorite's region of country
9.	uregion	underdog's region of country
10.	scrdiff	favscr - undscr
11.	sprdcvr	=1 if spread covered
12.	favwin	=1 if favored team wins